

SEQUENCE LISTING

<110> INCYTE PHARMACEUTICALS, INC.

TANG, Y. Tom
 CORLEY, Neil C.
 GORGONE, Gina A.
 GUEGLER, Karl J.
 BAUGHN, Mariah R.

<120> MYOSIN HEAVY CHAIN HOMOLOG

<130> PF-0621 PCT

<140> To Be Assigned

<141> Herewith

<150> 09/187,060; unassigned

<151> 1998-11-05; 1998-11-05

<160> 4

<170> PERL Program

<210> 1

<211> 612

<212> PRT

<213> Homo sapiens

<220>

<221> misc_feature

<223> Incyte ID No: 1929760CD1

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Phe	Leu	Gly	Pro	Leu	Phe	Pro	Ile	Cys	Ser	Leu	Gln	Trp	Pro	His
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Gly	Phe	Ser	Ala	Ile	Phe	Pro	Gly	Leu	Leu	Asp	Val	Tyr	Gly	Phe
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Glu	Ser	Phe	Pro	Asp	Asn	Ser	Leu	Glu	Gln	Leu	Cys	Ile	Asn	Tyr
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Ala	Asn	Glu	Lys	Leu	Gln	Gln	His	Phe	Val	Ala	His	Tyr	Leu	Arg
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Ala	Gln	Gln	Glu	Glu	Tyr	Ala	Val	Glu	Gly	Leu	Glu	Trp	Ser	Phe
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Ile	Asn	Tyr	Gln	Asp	Asn	Gln	Pro	Cys	Leu	Asp	Leu	Ile	Glu	Gly
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Ser	Pro	Ile	Ser	Ile	Cys	Ser	Leu	Ile	Asn	Glu	Glu	Cys	Arg	Leu
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Asn	Arg	Pro	Ser	Ser	Ala	Arg	Gln	Leu	Gln	Thr	Arg	Ile	Glu	Thr
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His Thr Ala Gly	Leu Val Glu Lys Asn	Lys Asp Pro Ile Pro Pro			
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Glu Leu Thr Arg	Leu Leu Gln Gln Ser	Gln Asp Pro Leu Leu Met			
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Gly Leu Phe Pro	Thr Asn Pro Lys Glu	Lys Thr Gln Glu Glu Pro			
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Pro Gly Gln Ser	Arg Ala Pro Val Leu	Thr Val Val Ser Lys Phe			
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Lys Ala Ser Leu	Glu Gln Leu Leu Gln	Val Leu His Ser Thr Thr			
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Pro His Tyr Ile	Arg Cys Ile Lys Pro	Asn Ser Gln Gly Gln Ala			
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Gln Thr Phe Leu	Gln Glu Glu Val Leu	Ser Gln Leu Glu Ala Cys			
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Gly Leu Val Glu	Thr Ile His Ile Ser	Ala Ala Gly Phe Pro Ile			
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Arg Val Ser His	Arg Asn Phe Val Glu	Arg Tyr Lys Leu Leu Arg			
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Arg Leu His Pro	Cys Thr Ser Ser Gly	Pro Asp Ser Pro Tyr Pro			
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Ala Lys Gly Leu	Pro Glu Trp Cys Pro	His Ser Glu Glu Ala Thr			
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Leu Glu Pro Leu	Ile Gln Asp Ile Leu	His Thr Leu Pro Val Leu			
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Thr Gln Ala Ala	Ala Ile Thr Gly Asp	Ser Ala Glu Ala Met Pro			
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Ala Pro Met His	Cys Gly Arg Thr Lys	Val Phe Met Thr Asp Ser			
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Met Leu Glu Leu	Leu Glu Cys Gly Arg	Ala Arg Val Leu Glu Gln			
	395		400		405
Cys Ala Arg Cys	Ile Gln Gly Gly Trp	Arg Arg His Arg His Arg			
	410		415		420
Glu Gln Glu Arg	Gln Trp Arg Ala Val	Met Leu Ile Gln Ala Ala			
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Ile Arg Ser Trp	Leu Thr Arg Lys His	Ile Gln Arg Leu His Ala			
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Ala Ala Thr Val	Ile Lys Arg Ala Trp	Gln Lys Trp Arg Ile Arg			
	455		460		465
Met Ala Cys Leu	Ala Ala Lys Glu Leu	Asp Gly Val Glu Glu Lys			
	470		475		480
His Phe Ser Gln	Ala Pro Cys Ser Leu	Ser Thr Ser Pro Leu Gln			
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Thr Arg Leu Leu	Glu Ala Ile Ile Arg	Leu Trp Pro Leu Gly Leu			
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Val Leu Ala Asn	Thr Ala Met Gly Val	Gly Ser Phe Gln Arg Lys			
	515		520		525
Leu Val Val Trp	Ala Cys Leu Gln Leu	Pro Arg Gly Ser Pro Ser			
	530		535		540
Ser Tyr Thr Val	Gln Thr Ala Gln Asp	Gln Ala Gly Val Thr Ser			
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Ile Arg Ala Leu	Pro Gln Gly Ser Ile	Lys Phe His Cys Arg Lys			
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Ser Pro Leu Arg Tyr Ala Asp Ile Cys Pro Glu Pro Ser Pro Tyr
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 Ile His Val Thr Ser Ser Ala Phe Thr Gly Leu Gly
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<212> DNA

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<220>

<221> misc_feature

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				20					25					30
His	Ser	Trp	Gln	Gly	Pro	Val	Val	Pro	Ala	Ala	Lys	Leu	Gln	Val
				35					40					45
Leu	Ile	Lys	Gly	Val	Arg	Ile	Trp	His	Arg	His	Pro	Thr	Leu	Val
				50					55					60
Trp	Ile	Gly	Ala	Thr	Leu	Glu	Glu	Asp	Ile	Thr	Phe	Gln	Thr	Arg
				65					70					75
Asn	Val	Arg	Ile	Arg	Leu	Glu	Asp	Asp	Thr	Glu	Val	Glu	Tyr	Ala
				80					85					90
Ile	Lys	Ser	Leu	Asp	Gln	Leu	Pro	Phe	Leu	Arg	Asn	Pro	Ala	Phe
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Leu	Val	Gly	Lys	Asp	Asp	Leu	Thr	Leu	Leu	Ser	Tyr	Leu	His	Glu
				110					115					120
Pro	Ala	Val	Leu	His	Asn	Leu	Gln	Val	Arg	Phe	Val	Lys	Gly	Ser
				125					130					135
Ser	Ile	Tyr	Thr	Tyr	Cys	Gly	Ile	Val	Leu	Val	Ala	Ile	Asn	Pro
				140					145					150
Tyr	Ala	Asp	Cys	Ser	His	Ile	Tyr	Gly	Glu	Glu	Ile	Ile	Gln	Val
				155					160					165
Tyr	Arg	Gly	Ala	Gly	Lys	Ser	Ala	Arg	Glu	Met	Asp	Pro	His	Ile
				170					175					180
Phe	Ala	Val	Ala	Glu	Glu	Ala	His	Phe	Asp	Met	Gly	Ala	Phe	Gly
				185					190					195
Lys	Ser	Gln	Ser	Ile	Ile	Val	Ser	Gly	Glu	Ser	Gly	Ala	Gly	Lys
				200					205					210
Thr	Val	Ser	Ala	Lys	Phe	Val	Met	Arg	Tyr	Leu	Ala	Ser	Val	Ala
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Ala	Ser	Lys	Thr	Arg	Asn	Gly	Gly	Thr	Thr	Ser	Ile	Glu	Ala	Arg
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Val	Leu	Ala	Ser	Asn	Pro	Ile	Met	Glu	Ser	Ile	Gly	Asn	Ala	Lys
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Thr	Ile	Arg	Asn	Asp	Asn	Ser	Ser	Arg	Phe	Gly	Lys	Phe	Ile	Gln
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Ile	Asn	Phe	Cys	Glu	Arg	Gly	Arg	Arg	Ile	Val	Gly	Ala	Glu	Met
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Lys	Thr	Tyr	Leu	Leu	Glu	Lys	Ser	Arg	Leu	Val	Phe	Gln	Ala	Pro
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Gly	Glu	Arg	Asn	Tyr	His	Ile	Phe	Tyr	Gln	Leu	Cys	Ala	Ala	Arg
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Asn	His	Gln	Val	Leu	Lys	Asp	Leu	His	Leu	Gly	Pro	Cys	Glu	Ser
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Tyr	Ser	Tyr	Leu	Thr	Gln	Gly	Gly	Asp	Ser	Arg	Ile	Pro	Gly	Val

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Asp Asp Lys Ala Asp Phe Glu Ala Leu	Leu Lys Ala Leu Gln Leu	
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Leu Gly Phe Asp Glu Lys Gln Met Ser	Asp Val Phe Arg Leu Leu	
365	370	375
Ala Gly Leu Leu Leu Leu Gly Asn Val	His Phe Glu Asn Gly Glu	
380	385	390
Gly Ser Ser Ala Val Ser Ala Ser Ser	Cys Gln Glu Ile Ser Arg	
395	400	405
Leu Cys Arg Glu Phe Trp Lys Ile Ser	Glu Ser Asp Leu Arg Ile	
410	415	420
Trp Leu Thr Arg Arg Glu Ile Arg Ala	Val Asn Glu Ile Val Thr	
425	430	435
Lys Pro Leu Thr Lys Asn Glu Ala Val	Arg Ser Arg Asp Ala Leu	
440	445	450
Thr Lys Met Leu Tyr Ser His Leu Phe	Gly Trp Leu Val Asp Lys	
455	460	465
Ile Asn Glu Ala Leu Asn Glu Lys Asp	Lys Leu Asp Gly Thr Asn	
470	475	480
Gln Lys Lys Arg Pro Asp Arg Phe Ile	Gly Val Leu Asp Ile Tyr	
485	490	495
Gly Phe Glu Thr Phe Asp Val Asn Ser	Phe Glu Gln Phe Ser Ile	
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Asn Tyr Ala Asn Glu Lys Leu Gln Gln	Gln Phe Asn Gln His Val	
515	520	525
Phe Lys Leu Glu Gln Glu Glu Tyr Ile	Arg Glu Glu Ile Glu Trp	
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Val Arg Val Asp Phe His Asp Asn Gln	Pro Ala Ile Asp Leu Ile	
545	550	555
Glu Gly Pro Val Gly Met Ile Asn Leu	Leu Asp Glu Gln Cys Lys	
560	565	570
Arg Leu Asn Gly Ser Asp Ala Asp Trp	Leu Ser Gln Leu Gln Asn	
575	580	585
Ser Thr Glu Leu Lys Arg Asn Pro Gln	Leu Ala Phe Pro Lys Val	
590	595	600
Arg Ser Asn Asp Phe Ile Val Arg His	Phe Ala Ala Asp Val Thr	
605	610	615
Tyr Ser Thr Asp Gly Phe Val Glu Lys	Asn Arg Asp Ala Ile Gly	
620	625	630
Glu Gln Leu Leu Asp Val Val Val Ala	Ser Lys Phe Pro Phe Ile	
635	640	645
Arg Thr Val Ile Gly Ser Thr Ala Pro	Thr Ser Val Ser Ser Ser	
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Ser Ser Ser Ser Thr Pro Gly Lys Arg	Thr Ile Lys Lys Thr Val	
665	670	675
Ala Ser Gln Phe Arg Asp Ser Leu Lys	Glu Leu Met Ser Val Leu	
680	685	690
Cys Ser Thr Arg Pro His Tyr Val Arg	Cys Ile Lys Pro Asn Asp	
695	700	705
Ser Lys Ile Ser Phe Asp Phe Glu Pro	Lys Arg Ala Ile Gln Gln	
710	715	720
Leu Arg Ala Cys Gly Val Leu Glu Thr	Val Arg Ile Ser Ala Ala	
725	730	735
Gly Phe Pro Ser Arg Tyr Pro Tyr Glu	Glu Phe Ala Arg Arg Tyr	
740	745	750

Arg Val Ile Tyr Thr Lys Glu Ala Ala Leu Trp Arg Asp Lys Pro	755	760	765
Lys Gln Phe Ala Glu Leu Ala Cys Gln Gln Cys Leu Glu Glu Gly	770	775	780
Lys Tyr Ala Val Gly Lys Thr Lys Ile Phe Leu Arg Thr Gly Gln	785	790	795
Val Ala Val Leu Glu Arg Val Arg Leu Asp Thr Leu Ala Ala Ala	800	805	810
Ala Thr Val Ile Gln Lys Met Trp Lys Gly Phe Leu Ala Arg Arg	815	820	825
Lys Tyr Glu Thr Met Arg Arg Ser Leu Leu Ile Val Gln Ala Ser	830	835	840
Leu Lys Ala Phe Leu Ala Phe Arg Arg Ile Lys Tyr Leu Gln Met	845	850	855
His Arg Ala Val Ile Val Met Gln Ser Ala Val Arg Gly Tyr Leu	860	865	870
Glu Arg Arg Lys Tyr Glu Gln Ile Arg Asp Ser Ile Ile Gly Ile	875	880	885
Gln Ala Met Phe Lys Ala Asn Arg Val Arg Arg Tyr Val Glu Lys	890	895	900
Leu Arg Tyr Glu Lys Ser Ala Ile Thr Ile Gln Ala Ala Trp Arg	905	910	915
Gly Tyr Leu Ala Arg Arg Glu Gln Ile Ala Asn Arg Lys Lys Val	920	925	930
Val Met Val Gln Cys Ala Val Arg Lys Trp Leu Ala Lys Arg Arg	935	940	945
Leu Arg Glu Leu Lys Ile Glu Ala Arg Ser Val Gly His Leu Gln	950	955	960
Lys Leu Asn Thr Gly Leu Glu Asn Lys Ile Ile Glu Leu Gln Met	965	970	975
Arg Leu Asp Ile Ala Asn Ala Arg Thr Lys Glu Glu Ala Glu Lys	980	985	990
Phe Ala Thr Ala Ser Lys Asn Leu Gln Lys Thr Lys Ala Asp Leu	995	1000	1005
Ala Met Met Glu Ala Glu Arg Leu Thr Leu Leu Glu Ala Arg Asn	1010	1015	1020
Arg Val Glu Val Leu Gln Glu Glu Val Glu Arg Leu Glu Thr Glu	1025	1030	1035
Cys Asp Leu Lys Glu Ala Gln Arg Gly Gly Met Glu Thr Lys Met	1040	1045	1050
Val Glu Leu Gln Ser Arg Leu Asp Gln Phe Gln Met Gln Ser Glu	1055	1060	1065
Ser Gly Gln Thr Ile Val Glu Leu Thr Glu Gln Leu Glu Lys Ala	1070	1075	1080
Lys Ala Asp Arg Val Leu Trp Asp Glu Glu Arg Gln Arg Met Glu	1085	1090	1095
Ala Ala Leu Asn Thr Glu Arg Ser Ala Arg Asn Ala Leu Asp Ala	1100	1105	1110
Glu Met Ala Ala Met Arg Glu Gln Leu Met Lys Asn Val Asp Leu	1115	1120	1125
Phe Glu Ser Ser Thr Phe Gln Lys Arg Pro Ser Gln Lys Lys Asn	1130	1135	1140
Arg Asp Asp Asp Ser Cys Ser Arg Thr Thr Ser Asn Leu Ser Gln	1145	1150	1155
Leu Thr Gly Ser Phe Thr Ala Glu Thr Ile Asn Gly Val His Ser			

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Thr Ser Arg Gly Ser Pro Glu Val Leu Leu Asp Asn Met Ala Ser		
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Thr Phe Glu Gln Leu Arg Met Ile Asn Asp Leu Arg Gln Arg Asn		
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Glu His Cys Gln Arg Glu Thr Glu Arg Met Lys Ala Ile Ile Glu		
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Ala Ser Thr Leu Ile Glu Thr Leu Asp Lys Lys Thr Ser Leu Lys		
1220	1225	1230
Ala Phe Glu Ser Ile Arg Val Gly Glu Leu Glu Gly Ala Tyr Asn		
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Arg Leu Lys Asn Asp Met Glu Arg Leu Val Ser Gly Glu Asn Gly		
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Ala Thr His Ser Val Phe Glu Arg Ile Met Glu Glu Asn Glu Arg		
1265	1270	1275
Leu Arg Glu Glu Ala Val Glu Leu Arg Ser Met Leu Ser Ser His		
1280	1285	1290
Phe Glu Lys Gln Ser Val Ala Gly Ser Ser Gly Tyr Arg Arg Ser		
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Pro Arg Pro Asp Ser Gly His Cys Ser Gly Ala Asp Ser Glu Asp		
1310	1315	1320
Gly Ser Ser Gly Ala Asp Leu Glu Glu Asp Leu Cys Ile Glu Arg		
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Gln Cys Arg His Leu Lys Asn Leu Ala Glu Asn Leu Thr Lys Met		
1340	1345	1350
Leu Thr Asn Gln Asn Leu Glu Ile Glu Arg Leu Gln Gln Gln Leu		
1355	1360	1365
Arg Phe Ser Glu Ser Gln Thr Val Phe Arg Pro Ser Asp Cys Ser		
1370	1375	1380
Leu Asp Glu Ala Val Arg Gly Ala His Lys Gln Thr Gln Leu Leu		
1385	1390	1395
Ala Gln Gln Asn Met Asp Leu Asn Asp Lys Leu Thr Arg Gln Ser		
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Glu Glu Leu Ala Glu Ala Arg Ala Gln Leu Arg Gly Tyr Ser Gly		
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Pro Leu Gly Leu Glu Asn Ala Ser Asp Glu Glu Ile Ile Arg Leu		
1430	1435	1440
Glu Ala Phe Glu Lys Gly Ser Ile Lys His Ser Gly Phe Leu Glu		
1445	1450	1455
Val Tyr Asn Val Pro Glu Phe Ala Arg Ile Ile Val Cys Glu Leu		
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Lys Pro Thr Leu Ala Arg Leu Leu Thr Lys Asn Leu Pro Ala Tyr		
1475	1480	1485
Leu Leu Val Ala Ala Phe Arg Asn His Asp Glu Lys Arg Asp Glu		
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Thr Ala Leu Thr Gly Leu Phe Ser Ser Val His Leu Val Leu Lys		
1505	1510	1515
Asp Thr Ile Ser Arg Ser His Asp Leu Asp Leu Leu Ser Leu Trp		
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Leu Val Asn Leu Trp Arg Leu Phe Asn Leu Leu Arg Gln Tyr Ser		
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Gly Glu Asp Ser Gln Pro Glu Trp His Val Ala Asn Thr Glu Thr		
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Gln Asn Ser Tyr Arg Phe Lys Ala Tyr Asp Val Ala Pro Ile Arg		
1565	1570	1575

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Asp Gln Leu Lys Leu Arg Ile Glu Glu Cys Tyr Thr Ser Leu Met
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Lys Lys Ala Ile Glu His Val Leu Ser Pro Lys Ile Val Pro Gly
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Ile Leu Gln His Glu Ser Ser Ser Asp Leu Met Thr Ala Gly Gln
      1610                      1615                      1620
Glu Arg Arg Asp Arg Asn Ser Gly Ser Val Glu Ser Gln Arg Lys
      1625                      1630                      1635
Ser Leu Asp Asp Leu Leu Gln Phe Met Glu Ile Val His Thr Lys
      1640                      1645                      1650
Leu Thr Thr Tyr Gly Gly Asp Asp Ile Val Val Lys Gln Val Ile
      1655                      1660                      1665
Gly Gln Met Ala Arg Trp Met Cys Ala Leu Ala Leu Asn Tyr Met
      1670                      1675                      1680
Met Phe Arg Arg Glu Leu Cys Asn Phe Glu Lys Ala Ile Gln Ile
      1685                      1690                      1695
Lys His Asn Val Thr Gln Ile Gln Asn Trp Leu Asn Ala Lys Gly
      1700                      1705                      1710
Leu Ser Asp Cys Arg Asp His Phe Glu Pro Leu Val Gln Ala Cys
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His Leu Leu Gln Ser Arg Lys Asp Pro Ser Asn Leu Asp Thr Leu
      1730                      1735                      1740
Cys Gly Glu Met Thr Ser Arg Leu Lys Pro Arg Gln Val Val Ala
      1745                      1750                      1755
Ile Leu Gln His Tyr Asp Pro Ser Asp Glu Met Glu Asp Gly Leu
      1760                      1765                      1770
Ser Pro Glu Phe Leu Val Gln Ile Gln Lys Lys Leu Asn Glu Arg
      1775                      1780                      1785
Ala Ile Ala Asn Asn Asp Pro Ile Glu Asp Lys Asp Lys Leu Ile
      1790                      1795                      1800
Met Leu Gly Thr Tyr Leu Pro Pro Phe Asp Thr Gln Pro Phe Ser
      1805                      1810                      1815
Tyr Ser Asp Phe Pro Leu Glu Thr Leu Ser Leu Pro Ser Cys Leu
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His Met Gln Ser Val Cys Arg Leu Val
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<211> 1120

<212> PRT

<213> Helianthus annuus

<300>

<308> GenBank ID No: g2444174

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Asp Asp Asp Ala Asp Val Asn Pro Ser Val Ser Ala Gln Gly Ser
      35              40              45
Val Leu Gly Ser Trp Gly Asn Lys Lys Trp Gly Asp Thr Ala Ser

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Tyr Ile Ala Lys	Lys Lys Leu Gln Ser Trp Phe Gln Thr Ser Asp				
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Gly Asn Trp Glu	Leu Ala Lys Ile Leu Ser Ile Thr Gly Ser Glu				
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Ser Leu Met Ser	Leu Ser Glu Glu Lys Val Leu Lys Val Ser Ser				
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Asp Ser Leu Leu	Pro Ala Asn Pro Glu Ile Leu Asp Gly Val Asp				
	110		115		120
Asp Leu Met Gln	Leu Ser Tyr Leu Asn Glu Pro Ser Val Leu Tyr				
	125		130		135
Asn Leu Gln Tyr	Arg Tyr Asp Arg Asp Met Ile Tyr Ser Lys Ala				
	140		145		150
Gly Pro Val Leu	Val Ala Ile Asn Pro Phe Lys Lys Ile Pro Leu				
	155		160		165
Tyr Gly Ser Asp	Tyr Ile Glu Ala Tyr Lys Arg Lys Ser Ile Asp				
	170		175		180
Asn Pro His Val	Tyr Ala Ile Ala Asp Thr Ala Ile Arg Glu Met				
	185		190		195
Ile Arg Asp Glu	Val Asn Gln Ser Ile Val Ile Ser Gly Glu Ser				
	200		205		210
Gly Ala Gly Lys	Thr Glu Thr Pro Lys Ile Ala Met Gln Tyr Leu				
	215		220		225
Ala Ala Leu Gly	Gly Gly Asp Ala Arg Glu Ser Gly Ile Leu Ser				
	230		235		240
His Asn Gly Cys	Arg Thr Pro Arg Arg Ala Glu Ala Phe Gly Asn				
	245		250		255
Ala Lys Thr Ser	Arg Asp Asn Asn Ser Ser Arg Ile Gly Lys Leu				
	260		265		270
Ile Glu Ile His	Phe Ser Glu Thr Gly Lys Ile Ser Gly Ala Lys				
	275		280		285
Ile Gln Thr Phe	Leu Leu Glu Lys Ser Arg Val Val Gln Cys Thr				
	290		295		300
Asp Gly Glu Arg	Ser Tyr His Ser Phe Tyr Gln Leu Cys Ala Gly				
	305		310		315
Ala Pro Pro Ser	Leu Arg Glu Lys Leu Asn Leu Lys Ser Ala Arg				
	320		325		330
Glu Tyr Lys Tyr	Phe Gln Gln Ser Thr Cys Tyr Ser Ile Asn Gly				
	335		340		345
Val Asp Asp Ala	Glu Glu Phe Arg Val Val Val Glu Ala Leu Asp				
	350		355		360
Ala Val His Val	Ser Lys Glu Asn Gln Glu Asn Ala Phe Ala Met				
	365		370		375
Leu Ala Ala Val	Leu Trp Leu Gly Asn Val Thr Phe Ser Ile Val				
	380		385		390
Asp Asn Glu Asn	His Val Glu Pro Ile Ile Asp Asp Ala Leu Leu				
	395		400		405
Asn Val Ala Lys	Leu Ile Gly Cys Glu Ala Asp Asp Leu Lys Leu				
	410		415		420
Ala Leu Ser Thr	Arg Asn Met Lys Val Gly Asn Asp Ile Ile Val				
	425		430		435
Gln Lys Leu Thr	Leu Ala Gln Ala Ile Asp Thr Arg Asp Ala Leu				
	440		445		450
Ala Lys Ser Ile	Tyr Ser Cys Leu Phe Asp Trp Leu Val Glu Gln				
	455		460		465

Ile Asn Lys Ser	Leu Ala Val Gly Lys Arg Arg Thr Gly Arg Ser	470	475	480
Ile Ser Ile Leu	Asp Ile Tyr Gly Phe Glu Ser Phe Asp Val Asn	485	490	495
Ser Phe Glu Gln	Phe Cys Ile Asn Tyr Ala Asn Glu Arg Leu Gln	500	505	510
Gln His Phe Asn	Arg His Leu Phe Lys Leu Glu Gln Glu Glu Tyr	515	520	525
Ile Gln Asp Gly	Ile Asp Trp Ala Lys Val Asp Phe Glu Asp Asn	530	535	540
Gln Asp Cys Leu	Asn Leu Phe Glu Lys Lys Pro Leu Gly Leu Met	545	550	555
Thr Leu Leu Asp	Glu Glu Ser Thr Phe Pro Asn Gly Thr Asp Met	560	565	570
Thr Phe Ala Thr	Lys Leu Lys Gln His Leu Lys Thr Asn Ser Cys	575	580	585
Phe Arg Gly Glu	Arg Gly Lys Ala Phe Thr Val His His Tyr Ser	590	595	600
Gly Glu Val Thr	Tyr Asp Thr Ser Gly Phe Leu Glu Lys Asn Arg	605	610	615
Asp Leu Leu His	Leu Asp Ser Ile Gln Leu Leu Ser Ser Cys Thr	620	625	630
Cys Glu Leu Pro	Gln Ala Phe Ala Ser Asn Met Leu Ser Leu Ser	635	640	645
Glu Lys Pro Val	Pro Gly Pro Leu His Lys Ser Gly Gly Ala Asp	650	655	660
Ser Gln Lys Leu	Ser Val Val Thr Lys Phe Lys Gly Gln Leu Phe	665	670	675
Gln Leu Met Gln	Arg Leu Glu Ser Thr Thr Pro His Phe Ile Arg	680	685	690
Cys Ile Lys Pro	Asn Asn Ser Gln Ser Pro Gly Ile Tyr His Gln	695	700	705
Gly Leu Val Leu	Gln Gln Leu Arg Cys Cys Gly Val Leu Glu Val	710	715	720
Val Arg Ile Ser	Arg Ser Gly Phe Pro Thr Arg Met Ser His Gln	725	730	735
Lys Phe Ala Arg	Arg Tyr Gly Phe Leu Leu Leu Glu His Val Ala	740	745	750
Ser Gln Asp Pro	Leu Ser Val Ser Val Ala Ile Leu His Gln Phe	755	760	765
Asp Ile Leu Pro	Glu Met Tyr Gln Ile Gly Tyr Thr Lys Leu Phe	770	775	780
Phe Arg Thr Gly	Gln Ile Gly Lys Leu Glu Asp Thr Arg Asn Arg	785	790	795
Thr Leu Asn Gly	Ile Leu Arg Val Gln Ser Cys Phe Arg Gly His	800	805	810
Lys Ala Arg Gln	Tyr Met Lys Glu Leu Lys Arg Gly Ile Phe Asn	815	820	825
Leu Gln Ala Phe	Ala Arg Gly Glu Lys Thr Arg Lys Glu Phe Ala	830	835	840
Ile Leu Val His	Arg His Arg Ala Ala Val His Ile Gln Lys His	845	850	855
Ile Lys Ala Lys	Ile Ser Lys Lys Arg Phe Glu Asp Val His Gly	860	865	870
Ala Thr Ile Thr	Leu Gln Ala Val Ile Arg Gly Trp Leu Val Arg			

875	880	885
Arg Cys Ser Gly Asp Ile Ala Leu Leu Gln Phe Gly Ser Gly Lys		
890	895	900
Gly Asn Gly Ser Asp Glu Val Leu Val Lys Ser Ser Tyr Leu Ala		
905	910	915
Glu Leu Gln Arg Arg Ile Leu Lys Ala Glu Ala Gly Leu Arg Glu		
920	925	930
Lys Glu Glu Glu Asn Asp Ile Leu His Gln Arg Leu Gln Gln Tyr		
935	940	945
Glu Asn Arg Trp Ser Glu Tyr Glu Leu Lys Met Lys Ser Met Glu		
950	955	960
Glu Val Trp Gln Lys Gln Met Arg Ser Leu Gln Ser Ser Leu Ser		
965	970	975
Ile Ala Lys Lys Ser Leu Ser Tyr Asp Asp Ser Glu Arg Asn Ser		
980	985	990
Asp Ala Ser Ile Asn Thr Ala Asn Asp Glu Thr Asn Pro Pro Trp		
995	1000	1005
Asp Ala Ala Thr Asn Gly Arg Arg Asn Gly Val Glu Asn Val Arg		
1010	1015	1020
Pro Met Ser Ala Gly Leu Ser Val Ile Ser Arg Leu Ala Glu Glu		
1025	1030	1035
Phe Glu Gln Arg Ser Gln Val Phe Gly Asp Asp Ala Lys Phe Leu		
1040	1045	1050
Val Glu Val Lys Ser Gly Gln Val Glu Ala Asn Leu Asn Pro Asp		
1055	1060	1065
His Glu Leu Arg Arg Leu Lys Gln Met Phe Glu Gly Trp Lys Lys		
1070	1075	1080
Asp Tyr Thr Ala Arg Leu Arg Glu Thr Lys Val Ile Leu Asn Lys		
1085	1090	1095
Leu Gly His Glu Asp Gly Asp Gly Glu Lys Gly Lys Lys Lys Trp		
1100	1105	1110
Trp Gly Arg Leu Asn Ser Ser Arg Val Asn		
1115	1120	